Biopolymers

Contents

Volume 49, 1999

Issue 1, January 1999

1 Isolation and Physical Characterization of an Exocellular Polysaccharide
R. Tuinier, P. Zoon, C. Olieman, M. A. Cohen Stuart, G. J. Fleer, and C. G. de Kruif

11 Association Behavior of Native β-Lactoglobulin
M. Verheul, J. S. Pedersen, S. P. F. M. Roefs, and K. G. de Kruif

21 Raman Spectroscopic Measurements in Self-Pressurized Aqueous Solutions Above 100°C: The Melting of Poly(G) and Poly(G) · Poly(C)
P. Mercier, V. Carrier, S. Roy, and R. Savoie

29 Conformational Analysis of Peptide Fragments Derived from the Peripheral Subunit-Binding Domain from the Pyruvate Dehydrogenase Multienzyme Complex of *Bacillus stearothermophilus:* Evidence for Nonrandom Structure in the Unfolded State
S. Spector, M. Rosconi, and D. P. Raleigh

41 Interactions of Polyamines with the DNA Octamers $d(m^5CG)_4$ and d(GGAATTCC): A ^{1}H-NMR Investigation
L. van Dam and L. Nordenskiöld

55 NMR Studies of the Structure and Dynamics of Peptide E, an Endogenous Opioid Peptide that Binds with High Affinity to Multiple Opioid Receptor Subtypes
C. Yan, R. J. Digate, and R. D. Guiles

71 Analysis of the Conformational Properties of κ- and ι-Carrageenan by Size-Exclusion Chromatography Combined with Low-Angle Laser Light Scattering
T. Hjerde, O. Smidsrød, and B. E. Christensen

81 Amylose–Lipid Complex Dissociation. A Study of the Kinetic Parameters
G. Jovanovich and M. C. Añón

91 Analysis of the Native Structure of Starch Granules with Small Angle X-Ray Microfocus Scattering
T. A. Waigh, A. M. Donald, F. Heidelbach, C. Riekel, and M. J. Gidley

107 Amylose Chain Behavior in an Interacting Context II. Molecular Modeling of a Maltopentaose Fragment in the Barley α-Amylase Catalytic Site
G. André, A. Buléon, M. Juy, N. Aghajari, R. Haser, and V. Tran

Issue 2, February 1999

Rapid Communications

121 Electrostatic Correlations Fold DNA
M. O. Khan and B. Jönsson

Regular Articles

127 Polyelectrolytic Aspects of the Thermodynamics of Conformational Transition: κ-Carrageenan in Formamide
J. C. Benegas, S. Pantano, A. Vetere, and S. Paoletti

131 Comparison of the Dynamics of Bovine and Human Angiogenin: A Molecular Dynamics Study
M. S. Madhusudhan and S. Vishveshwara

145 Complete Suboptimal Folding of RNA and the Stability of Secondary Structures
S. Wuchty, W. Fontana, I. L. Hofacker, and P. Schuster

167 Computational Investigations of Structural Changes Resulting from Point Mutations in a Collagen-Like Peptide
T. E. Klein and C. C. Huang

185 Binding of Proteins to Copolymers of Varying Hydrophobicity
J. Y. Gao and P. L. Dubin

Issue 3, March 1999

195 A Quantitative Anharmonic Analysis of the Amide A Band in α-Helical Poly(L-Alanine)
S.-H. Lee, N. G. Mirkin, and S. Krimm

209 Free Solution Mobility of Oligomeric DNA
U. Mohanty and N. C. Stellwagen

215 The Effect of Mutations on Peptide Models of the DNA Binding Helix of p53: Evidence for a Correlation Between Structure and Tumorigenesis
J. A. Trulson and G. L. Millhauser

225 Phosphorylation Stabilizes the N-Termini of α-Helices
J. L. Smart and J. A. McCammon

235 Smoluchowski Dynamics of the vnd/NK-2 Homeodomain from *Drosophila melanogaster*: First-Order Mode-Coupling Approximation
G. La Penna, M. Mormino, F. Pioli, A. Perico, R. Fioravanti, J. M. Gruschus, and J. A. Ferretti

255 Physicochemical Properties of Arterial Elastin and Its Associated Glycoproteins
M. Spina, A. Friso, A. R. Ewins, K. H. Parker, and C. P. Winlove

Issue 4, April 5, 1999

267 The Rubber-to-Glass Transition in High Sugar Agarose Systems
A. Tsoga, S. Kasapis, and R. K. Richardson

277 An NMR Conformational Analysis of a Synthetic Peptide Cn2(1–15)NH_2–S–S–Acetyl–Cn2(52–66)NH_2 from the New World *Centruroides noxius 2* (Cn2) Scorpion Toxin: Comparison of the Structure with Those of the *Centruroides* Scorpion Toxins
H. Yamamoto, J. Sejbal, E. York, J. M. Stewart, L. D. Possani, and G. Kotovych

287 DNA Frayed Wires: Differential Polymerization of d(A_nG_m) Oligonucleotides
E. Protozanova, L. Ko, and R. B. Macgregor, Jr.

297 Structural Consequences of D-Amino Acids in Collagen Triple-Helical Peptides
N. K. Shah, B. Brodsky, A. Kirkpatrick, and J. A. M. Ramshaw

303 Model Peptide Studies of Sequence Repeats Derived from the Intracrystalline Biomineralization Protein, SM50. I. GVGGR and GMGGQ Repeats
G. Xu and J. S. Evans

313 The Role of DNA–Protein Salt Bridges in Molecular Recognition: A Model Study
R. Gurlie, T. H. Duong, and K. Zakrzewska

329 Identification of Unusual Amino Acids in Peptides Using Automated Sequential Edman Degradation Coupled to Direct Detection by Electrospray-Ionization Mass Spectrometry
T. B. Walk, R. Süβmuth, C. Kempter, V. Gnau, R. W. Jack, and G. Jung

Issue 5, April 15, 1999

341 Modeling DNA Deformations Induced by Minor Groove Binding Proteins
A. Lebrun and R. Lavery

355 Dynamic Twisting Correlations in a Model DNA with Uniform Torsion Elastic Constant
J. M. Schurr and B. S. Fujimoto

361 A Light-Harvesting Antenna Protein Retains Its Folded Conformation in the Absence of Protein–Lipid and Protein–Pigment Interactions
J. Kikuchi, T. Asakura, P. A. Loach, P. S. Parkes-Loach, K. Shimada, C. N. Hunter, M. J. Conroy, and M. P. Williamson

373 Angular Variances for Internal Bond Rotations of Side Chains in GXG-Based Tripeptides Derived from ^{13}C-NMR Relaxation Measurements: Implications to Protein Folding
D. V. Mikhailov, L. Washington, A. M. Voloshin, V. A. Daragan, and K. H. Mayo

385 Electrohydrodynamically Induced Aggregation During Constant and Pulsed Field Capillary Electrophoresis of DNA
S. Magnúsdóttir, H. Isambert, C. Heller, and J.-L. Viovy

403 Conformation in Solution and Dynamics of a Structurally Constrained Linear Insect Kinin Pentapeptide Analogue
G. Moyna, H. J. Williams, R. J. Nachman, and A. I. Scott

415 Surface Active Properties of Amphiphilic Sequential Isopeptides: Comparison Between α-Helical and β-Sheet Conformations
R. Maget-Dana, D. Lelièvre, and A. Brack

Issue 6, May 1999

425 The Legacies of Langmuir, Ising, and Pauling: Ligand Binding and the Helix–Coil Transition
H. A. Saroff and J. E. Kiefer

441 Equilibrium Unfolding CD Studies of Bovine β-Lactoglobulin and Its 14–52 Fragment at Acidic pH
L. Ragona, L. Confalonieri, L. Zetta, K. G. De Kruif, S. Mammi, E. Peggion, R. Longhi, and H. Molinari

451 1-Anilino-8-Naphthalene Sulfonate as a Protein Conformational Tightening Agent
D. Matulis, C. G. Baumann, V. A. Bloomfield, and R. E. Lovrien

459 Conformational Change of Ascidiacyclamide Caused by Asymmetric Modification for An Isoleucine Residue: Structural Analyses of [Gly], [Leu], and [Phe]Ascidiacyclamides by X-Ray Diffraction and NMR Spectroscopy
M. Doi, F. Shinozaki, Y. In, T. Ishida, D. Yamamoto, M. Kamigauchi, M. Sugiura, Y. Hamada, K. Kohda, and T. Shioiri

471 Nonideality and Protein Thermal Denaturation
J. C. Waldner, S. J. Lahr, M. H. Edgell, and G. J. Pielak

481 Protein Loops on Structurally Similar Scaffolds: Database and Conformational Analysis
W. Li, Z. Liu, and L. Lai

497 Modeling of the α-Helix Conformation of Homopeptides Constituted by α-L-Glutamic Acid
D. Zanuy and C. Alemán

505 Stereochemical Specificity of Alzheimer's Disease β-Peptide Assembly
W. P. Esler, E. R. Stimson, J. B. Fishman, J. R. Ghilardi, H. V. Vinters, P. W. Mantyh, and J. E. Maggio

515 Electrohydrodynamic Instabilities and Segregation of Polysaccharides in Capillary Polymer Solution Electrophoresis
M. Stefansson

525 Conformational Analysis of Potent Sweet Taste Ligands by NMR and Computer Simulations
R.-H. Mattern, Y. Amino, E. Benedetti, and M. Goodman

Issue 7, June 1999

541 Further Crystallographic Evidence of NH$\cdots\pi$ (System) and CO$\cdots\pi$ (System) Interactions: The Structures of Bis(Diarylhydrazonecarbonyl)Methylene Derivatives [{ArPhC═NNH—C(O)}$_2$CH$_2$] (Ar = Ph, 2-C_5H_4N, 2-C_4H_3S)
P. Ganis, G. Valle, L. Pandolfo, R. Bertani, and F. Visentin

551 Terminal Effect of Chiral Residue on Helical Screw Sense in Achiral Peptides
Y. Inai, Y. Kurokawa, and T. Hirabayashi

565 Solid Phase Synthesis and NMR Conformational Studies on Cyclic Decapeptide Template Molecule
Z.-H. Peng

575 Divalent Cations and the Electrostatic Potential Around DNA: Monte Carlo and Poisson–Boltzmann Calculations
G. R. Pack, L. Wong, and G. Lamm

591 Low Frequency Vibrations of Amino Acid Homopolymers Observed by Synchrotron Far-IR Absorption Spectroscopy: Excited State Effects Dominate the Temperature Dependence of the Spectra
A. Xie, Q. He, L. Miller, B. Sclavi, and M. R. Chance

605 Effect of Salt-Dependent Stiffness on the Conformation of a Stressed DNA Loop Containing Initially Coplanar Bends
J. H. White, R. A. Lund, and W. R. Bauer

621 Adsorption of a Fungal Hydrophobin onto Surfaces as Mediated by the Associated Polysaccharide Schizophyllan
G. G. Martin, G. C. Cannon, and C. L. McCormick

635 Molecular Simulation of the Effects of Alcohols on Peptide Structure
D. S. Dwyer

649 Author Index

653 Subject Index

I Volume Contents